APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,754	06/15/2001	Hans Jurgen Matt	Q64847	5933

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EXAMINER
SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 May 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-10, 15-17, 21-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) <u>11-14 and 18-20</u> are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 25,

2006 has been entered.

Claim Rejections - 35 USC § 112

2.   With the amendments to the drawings and the specification, the claim rejection

under 35 USC § 112, First paragraph, is withdrawn.

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 2, 7 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 2 recites the limitations, "$h(N<<0 \text{ dBm}) = h_{min} = $ constant, and wherein

$h(N \approx 0 \text{ dBm}) = h_{max} > h_{min}$." in lines 3-4. The terms "$N<<0 \text{ dBm}$" and "$N \approx 0 \text{ dBm}$"

make the claim indefinite because the resulting claim does not clearly set forth the

metes and bounds of the claimed invention [See MPEP § 2173.05(c)]. A similar thing

holds for claim 7 that contains open-ended terms, "N << 0 dBm", "f0, g0, g'0<0", and

" fo > fmin, go > gmin, and g'0 > g'min" making the claimed invention indefinite.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Applicant cannot rely upon the foreign priority papers to overcome this rejection

because a translation of said papers has not been made of record in accordance with

37 CFR 1.55. See MPEP § 201.15.

6.   Claims 1, 4, 6 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated

by Matt et al [US 6,999,920 B1].

The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art

under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, Matt et al teach a method for reducing echo signals in telecommunications systems for the transmission of wanted acoustic signals, as shown in Fig.2, in which the presence of echo signals is detected and/or predicted and the detected and/or predicted echo signals are subsequently suppressed or reduced, comprising:

measuring and/estimating continuously the power value of a noise level N in a currently used telecommunications channel [col. 4, lines 49-54], and

setting continuously and automatically a degree of reduction of the echo signals to be currently effected, in dependence on the noise level N of the current channel, according to a predefined function h(N) [col. 4, lines 54-57],

wherein the function h(N) increases as N increases [Figs. 3a to 4b; col. 5, lines 45-49].

Regarding claim 4, Matt et al teach a method for reducing echo signals in telecommunications systems for the transmission of wanted acoustic signals, as shown in Fig.2, in which the presence of echo signals is detected and/or predicted and the detected and/or predicted echo signals are subsequently suppressed or reduced, comprising:

measuring and/estimating continuously the power value of a noise level N in a

currently used telecommunications channel [col. 4, lines 49-54], and

setting continuously and automatically a degree of reduction of the echo signals

to be currently effected, in dependence on the noise level N of the current channel,

according to a predefined function h(N) [col. 4, lines 54-57],

wherein the predefined function h(N) is a function k(S/N) which depends on a

signal-to-noise ratio, S/N of a power value of a signal level S of the wanted signals to be

transmitted and a power value of the noise level N [col. 5, lines 3-8], or

wherein the predefined function h(N) is a function k'(N/S) which depends on the

reciprocal N/S of the signal to noise ratio, or which depends on N/(N+S) [col. 5, lines 8-

11; col. 9, lines 48-54].

Regarding claim 6, Matt et al teach a method for reducing echo signals in

telecommunications systems for the transmission of wanted acoustic signals, as shown

in Fig.2, in which the presence of echo signals is detected and/or predicted and the

detected and/or predicted echo signals are subsequently suppressed or reduced,

comprising:

measuring and/estimating continuously the power value of a noise level N in a

currently used telecommunications channel [col. 4, lines 49-54], and

setting continuously and automatically a degree of reduction of the echo signals

to be currently effected, in dependence on the noise level N of the current channel,

according to a predefined function h(N) [col. 4, lines 54-57];

suppressing or reducing noise signals [col. 4, lines 58-62]; and

setting continuously and automatically a degree of reduction of the noise level N

to be currently effected, in dependence on the current noise level N, according to a

second predefined function f(N) or g(S/N) or g'(N/S), g'(N/[N+S]) [col. 5, lines 3-11].

Regarding claim 17, Matt et al teach a method for reducing echo signals in

telecommunications systems for the transmission of wanted acoustic signals, as shown

in Fig.2, in which the presence of echo signals is detected and/or predicted and the

detected and/or predicted echo signals are subsequently suppressed or reduced,

comprising:

measuring and/estimating continuously the power value of a noise level N in a

currently used telecommunications channel [col. 4, lines 49-54], and

setting continuously and automatically a degree of reduction of the echo signals

to be currently effected, in dependence on the noise level N of the current channel,

according to a predefined function h(N) [col. 4, lines 54-57];

suppressing or reducing noise signals [col. 4, lines 58-62]; and

controlling separately the suppression or reduction of noise signals and the

reduction of the echo signals [col. 10, lines 42-44].

Regarding claim 2, Matt et al further teach the method, wherein h(N < 0

dB.sub.m)=h.sub.min=constant, and wherein h(N = 0 dB.sub.m)=h.sub.max>h.sub.min

[Fig. 4b; col. 9, lines 55-61].

Regarding claim 3, Matt et al further teach:

wherein -50 dB<h.sub.min<-20 dB, and

wherein -20 dB<h.sub.max<0 dB [[Fig. 4b; col. 8, lines 52-62].

Regarding claim 5, Matt et al further teach the method comprising:

suppressing or reducing noise signals [col. 4, lines 58-62].

Regarding claim 7, Matt et al further teach the method,

wherein the functions f(N), g(S/N), g'(N/S) **or** g'([N/N+S]) comprise, respectively,

a constant maximum value f.sub.max, g.sub.max, and g'.sub.max, which are

approximately equal to 0, for N << 0 dBm, , a settable minimum value f.sub.min,

g.sub.min, g'.sub.min, respectively in the range between N=-15 dB.sub.m to -10

dB.sub.m, and a constant value f.sub.0 and g'.sub.0 respectively for N approximately

equal to 0 dBm,

wherein f.sub.0, g.sub.0, g'.sub.0<0, and

wherein fo > fmin, go > gmin and g'0 > g'min [Fig. 4b; col. 5, lines 3-66]

Regarding claim 8, Matt et al further teach the method,

wherein f.sub.0.ltoreq.-5 dB, g.sub.0.gtoreq.-10 dB, and

f.sub.min.ltoreq.-20 dB, and g.sub.min.gtoreq.-30 dB [Fig. 4b; col. 8, lines 52-62].

Regarding claim 9, Matt et al further teach the method,

wherein a portion of the function h(N) is linear with N [Fig. 3b; col. 5, lines 45-49].

Regarding claim 10, Matt et al further teach the method,

wherein a portion of the functions k(S/N) and k'(N/S or N/(N+S)) is linear with S/N and N/S or N/(N+S) respectively [Fig. 4b; col.5, lines 3-11].

Regarding claim 15, Matt et al further teach the method,

wherein a speech pause detector (or silence pause detector) (SPD) is used for recognition of the noise level N [col. 6, lines 10-26; col. 10, line 55 to col.. 11, line 5].

Regarding claim 16, Matt et al further teach the method,

wherein the power value of the wanted acoustic signals to be transmitted is reduced during the speech pauses according to an exponential function [col. 4, lines 1-5].

Regarding claims 21-27, the limitations are shown above.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ramnandan Singh
Examiner
Art Unit 2614